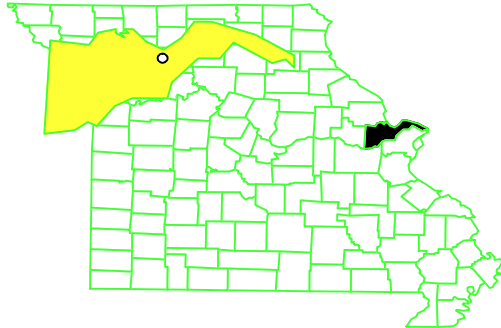


**WELDON SPRING
QUARRY/PLANT/ PITTS
(USDOE/ARMY)
MISSOURI
EPA ID# MO3210090004**

EPA Region 7
City: 25 miles west of St. Louis
County: St. Charles County
**Other Names: Weldon Spring-Raffinate
Pits,
Weldon Springs Chemical Plant**

12/03/2003



SITE DESCRIPTION

The Weldon Spring Quarry/Plant/Pits (USDOE/Army) site covers 230 acres and is located between the Missouri and Mississippi Rivers. This site is closely associated with the nearby Weldon Spring Former Army Ordnance Works NPL site. A series of land transfers in the 1950s gave the Atomic Energy Commission (AEC), later called the U.S. Department of Energy (DOE), 220 acres of the original Ordnance Works area. The DOE now is responsible for the contamination, both radioactive and non-radioactive, on the property. The site includes a 51-acre disposal area, a 169-acre abandoned uranium feed materials plant, various smaller properties, and a 9-acre former limestone quarry located 4 miles from the plant. From 1941 to 1944, the Department of the Army operated an explosives production plant on the site. Due to frequent spills, wastewater containing sulfonate derivatives contaminated surface water and groundwater. The Ordnance Works area was closed at the end of World War II, and the processing structures were demolished. In 1955, the AEC acquired a portion of the Ordnance Works area for construction of a uranium feed materials plant. Mallinckrodt, Inc. operated the plant under a contract with the AEC from 1957 to 1966. The plant converted uranium concentrates to uranium tetrafluoride and uranium metal. Thorium ore, also a radioactive metal, was processed. The residues from the processing were disposed of in four large open pits. During that period, the plant, buildings, equipment, soil surface, sewer system, and the drainage into the Missouri River became contaminated with uranium, thorium, and their radioactive decay products. From 1943 until 1957, the U.S. Army used an abandoned limestone quarry located about 4 miles southwest of the plant site for the disposal of unknown quantities of materials contaminated with trinitrotoluene (TNT) and dinitrotoluene (DNT) residues. The AEC acquired the site in 1958 and used the quarry from 1959 to 1966 to dispose of uranium, thorium, and radium residues and

contaminated materials and equipment. From 1966 to 1969, the Army deposited additional TNT-contaminated materials in the quarry.

The quarry is located 3/4 of a mile from the St. Charles County well field, which is used as a drinking water source for approximately 70,000 people. The population living within 3 miles of the site is 5,000 people.

Site Responsibility:

This site is being addressed through Federal actions.

NPL LISTING HISTORY

Proposed Date: 10/15/1984

Final Date: 07/22/1987

Deleted Date:

THREATS AND CONTAMINANTS

Groundwater is contaminated with TNT, DNT, and other nitroaromatic compounds. The soil is contaminated with radionuclides, TNT, DNT, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs) from transformers, and heavy metals. Off-site surface water is contaminated with uranium. Accidental ingestion of and direct contact with contaminated groundwater, surface water, or soil may cause a potential health hazard. Adjacent wildlife and recreational areas may be threatened due to off-site migration of the contaminants. Contaminant migration from the quarry to the adjacent Missouri River alluvium poses a potential threat to the County well field.

CLEANUP APPROACH

Response Action Status

Immediate Actions: The DOE began interim cleanup actions at this site in 1987, which have included removing overhead piping and asbestos, consolidating and storing containerized chemicals, removing electric lines and poles, cleaning up radioactive soil from Army Reserve properties, dismantling the chemical plant structures, removing PCB transformers, constructing stormwater diversion dikes to reduce off-site migration, and constructing two wastewater treatment plants. Approximately 13,000 gallons of PCB fluids and flushing solutions were removed and transported to an off-site incineration facility. All 40 buildings and other structures were dismantled and placed in temporary storage. Two water treatment plants were built to

manage the treatment and discharge of stormwater and impounded surface water.

Quarry Bulk Waste: In 1990, the DOE chose to excavate and to temporarily store quarry bulk wastes on site. Wastes were transported over a haul road constructed solely for this purpose. Over 110,000 cubic yards of equipment, soil, drums, and debris were placed in temporary storage requiring over 10,000 roundtrips. The wastes were subsequently placed in the permanent on site disposal cell.

Source Control, Treatment, and Disposal: In 1986, the DOE began an investigation to determine the nature and extent of contamination of the air, lakes and streams, sludges, and 40 structures, and to identify cleanup alternatives. The studies were completed in 1993, and final cleanup strategies for contaminated areas were initiated to include removal and treatment of contaminated soils and sludges, construction of onsite containment cell, and disposal of approximately 1 million cubic yards of waste materials. Construction of the disposal cell was completed in 2001.

Quarry Residuals: An investigation focusing on residual contamination and groundwater contamination at the quarry area was concluded in 1998. The final restoration of the quarry was completed in September 2002 after removal of the water treatment plant and final backfilling and seeding of the area. Established long-term groundwater monitoring plans are ongoing.

Groundwater in the Former Chemical Plant Area: In the mid-1980s, the DOE began investigation of the groundwater in the chemical plant area. In September 2000 an interim decision was made allowing for focused treatment of TCE contaminated groundwater through in-situ oxidation. In August 2003 the DOE proposed that the final action for groundwater consist of monitored natural attenuation and institutional control.

In August 2002, the Weldon Spring Interpretive Center was dedicated. The Center depicts the history of the area and details the progression of the cleanup process that resulted in construction of the 45 acre engineered disposal cell. A public viewing platform and informational monuments were placed at the top of the cell providing a panoramic view of the surrounding area. In addition, the DOE coupled the historic significance of the area with its natural and recreational surroundings by adding a hike and bike trail connecting the Weldon Spring site to the historic Katy Trail and to the wildlife center in the August A. Busch Memorial Wildlife Area. The new trail has been named the Hamburg in recognition of the town of Hamburg, which was one of three towns taken over by the U.S. Army in order to construct the Weldon Spring Ordnance Works during World War II.

Site Facts: The DOE conducted cleanup actions at the quarry and the chemical plant area under a 1992 Interagency Agreement with the EPA,

ENVIRONMENTAL PROGRESS



The permanent disposal of contaminated soil, materials, and structures, and the treatment of impounded surface water described above, have reduced the potential for exposure to hazardous substances at the Weldon Spring Quarry/Plant/Pits site. The potential for exposure to contaminated groundwater will be minimized through natural attenuation and groundwater use restriction.

SITE REPOSITORY



Middendorf-Kredell Branch Library
St. Charles City-County Library
District
2750 Hwy K, O'Fallon, MO 63366

Superfund Records Center
901 N. 5th St.
Kansas City, KS 66101
Mail Stop SUPR
(913)551-4038

REGIONAL CONTACTS

SITE MANAGER:

Dan Wall

E-MAIL ADDRESS:

wall.daniel@epa.gov

PHONE NUMBER:

(913) 551-7710

COMMUNITY INVOLVEMENT

COORDINATOR:

PHONE NUMBER:

E-MAIL ADDRESS:

STATE CONTACT:

Ben Moore

PHONE NUMBER:

636-441-8030

MISCELLANEOUS INFORMATION

STATE:

MO

073S

CONGRESSIONAL DISTRICT:

09

EPA ORGANIZATION:

SFD-SUPR/FFSE

MODIFICATIONS